

## Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of the claims in the application.

### Listing of Claims:

1. (previously presented) In a wireless system, a method for determining whether a received frame is an erasure, a discontinuous (DTX) mode frame or a continuous (CONT) mode frame, comprising:

- a) decoding said frame to obtain a log likelihood ratio (LLR)  $\Lambda(n)$ , reflecting the likelihood that a detected symbol is a logic "1" or a logic "0";
- b) computing a mean absolute LLR value  $m$  for said received frame;
- c) calculating a CRC value for said received frame; and
- d) determining whether said received frame is an erasure, a DTX mode frame or a CONT mode frame based on said CRC value and said mean absolute LLR value.

2. (original) The method of claim 1, wherein step b) comprises determining the absolute value  $|\Lambda(n)|$  for all LLR' obtained for said frame, and calculating the mean value  $m$  of said absolute LLRs, using the relationship:

$$m = \frac{1}{N + M} \sum_{n=1}^{N+M} |\Lambda(n)|$$

where N is the number of data bits and M is the number of CRC bits in said received frame.

3. (original) The method of claim 1, wherein said step c) comprises: making a hard decision  $d(n)$  on each said  $\Lambda(n)$ , whereby a logic "1" is declared whenever said  $\Lambda(n)$  is less than 0, and a logic "0" otherwise; and calculating said CRC value based on said hard decisions  $d(n)$ .

4. (original) The method of claim 1, wherein said step d) comprises:

establishing a threshold  $T$  for said mean absolute LLR value  $m$ ;  
declaring said received frame as a CONT frame if said CRC value indicates a successfully recovered frame, and  $m > T$ ;  
declaring said received frame as a DTX frame if  $m < T$ ; and  
declaring said received frame as an erasure if said CRC value indicates a failed frame, and  $m > T$ .

5. (currently amended) A method of detecting the transmission rate of a voice frame in a wireless system comprising:

- a) decoding said voice frame for each of a plurality  $i$  of possible transmission rates  $j(i)$ ;
- b) for each said  $j(i)$  rate, computing a  $CRC(i)$  value and a mean absolute LLR value  $m(i)$ ; and
- c) determining the transmission rate based on said mean absolute LLR value for said voice frame by determining the maximum of all said values  $m(i)$ ; verifying if the  $CRC(i)$  value corresponding to said maximum indicates a successful reception of said voice frame; and declaring the rate corresponding to said maximum as said transmission rate.

6. (canceled)

7. (currently amended) The method of claim [[6]] 5, further comprising erasing said voice frame if the  $CRC(i)$  value corresponding to said maximum indicates a failed reception of said voice frame.

8. (original) The method of claim 5, wherein said transmission rates are a full rate corresponding to full voice activity, an 8<sup>th</sup> rate corresponding to silence, a half rate, and a quarter rate.

9. (previously presented) A receiver for a wireless communication system for recovering information transmitted in a frame, comprising:

means for decoding a received frame to obtain a log likelihood ratio (LLR)  $\Lambda(n)$  value reflecting the likelihood that a detected symbol  $s(n)$  is a logic "1" or a logic "0";

means for computing a mean absolute LLR value  $m$  for said received frame;

means for calculating a CRC value for said received frame; and

means for determining whether said received frame is an erasure, a discontinuous (DTX) mode frame or a continuous (CONT) mode frame based on the CRC value and said mean absolute LLR value.

10. (original) The receiver of claim 9, wherein said frame is a data frame and said means for decoding comprises a turbo decoder.

11. (original) The receiver of claim 10, wherein said means for computing a mean absolute LLR value comprises means for determining the absolute value  $|\Lambda(n)|$  for all LLRs obtained for said frame, and means for calculating the mean value of said absolute value  $|\Lambda(n)|$ .

12. (original) The receiver of claim 10, wherein said means for calculating a CRC value comprises:

a hard decision unit for converting each  $\Lambda(n)$  value that is less than 0 into a logic decision "1" and converting any other  $\Lambda(n)$  value into a logic decision "0"; and  
a CRC unit for calculating a CRC value based on said logic decisions.

13. (original) The receiver of claim 11, wherein said means for calculating the mean value has a transfer function:

$$m = \frac{1}{N + M} \sum_{n=1}^{N+M} |\Lambda(n)|$$

where N is the number of data bits, and M is the number of CRC bits in said received frame.

14. (original) The receiver of claim 9, wherein said frame is a voice frame and said means for decoding comprises an SISO decoder.

15. (original) The receiver of claim 14, wherein said means for decoding comprises:  
a de-interleaver for separating said voice frame from a repeat variant of said voice frame;

decoding means operating at  $i$  different rates to provide a respective  $CRC(i)$  value and a respective mean absolute LLR value  $m(i)$  for each said rate;  
a decision logic unit for receiving said  $CRC(i)$  values and said  $m(i)$  values and determining the rate of said voice frame; and  
means for establishing operation of said decoding means at said rate.